

Most SciComp interactions fall into one of three bins

- “user support +”
 - The SciComp liaison answers basic questions when asked and serves as an internal advocate for the project at the OLCF
 - Constant “pings” from liaisons
- “rainmakers”
 - The SciComp liaison “parachutes in” and undertakes an short, intense burst of development activity to surmount a singular application problem
 - The usual duration is less than 2 months in wallclock time and is 1 FTE-month in effort
- collaborators
 - The SciComp liaison is a member of (in several cases, one of the leaders of) the code development team
 - Liaison is a co-author on scientific papers

OLCF Support Site



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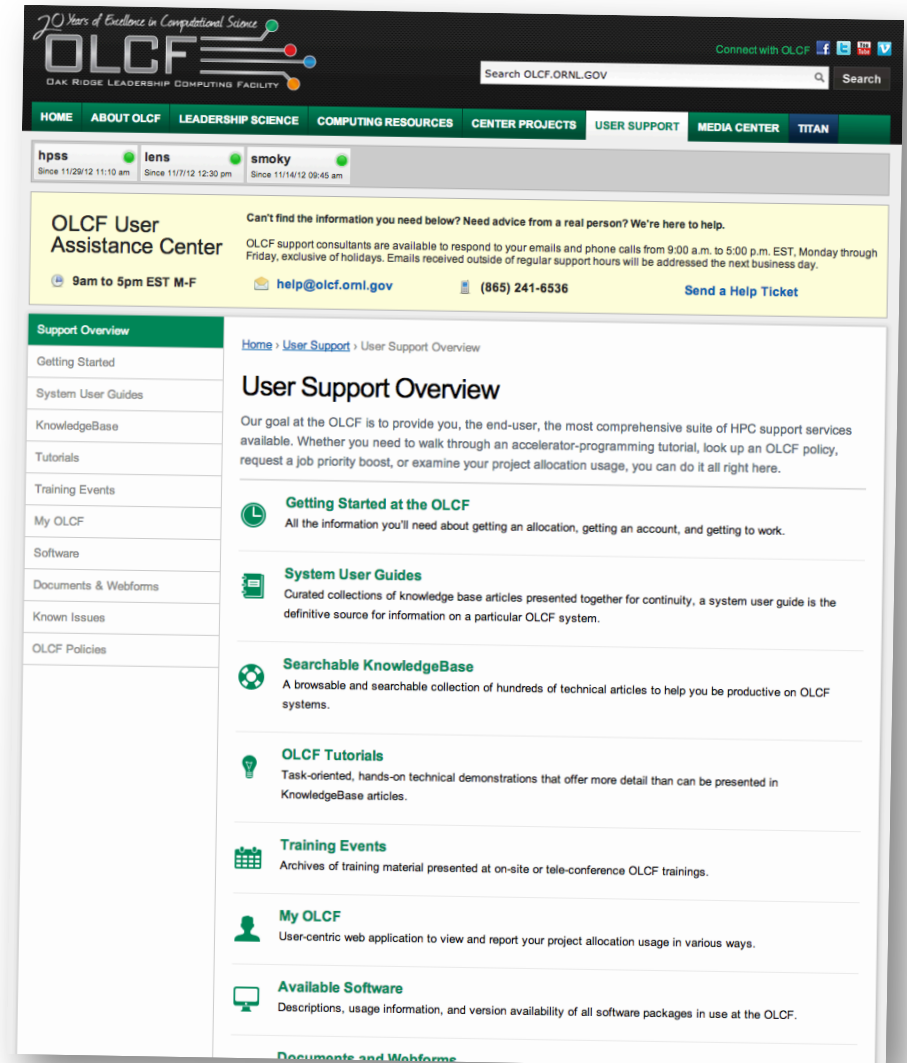
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OLCF Support Site

- All support information available at:

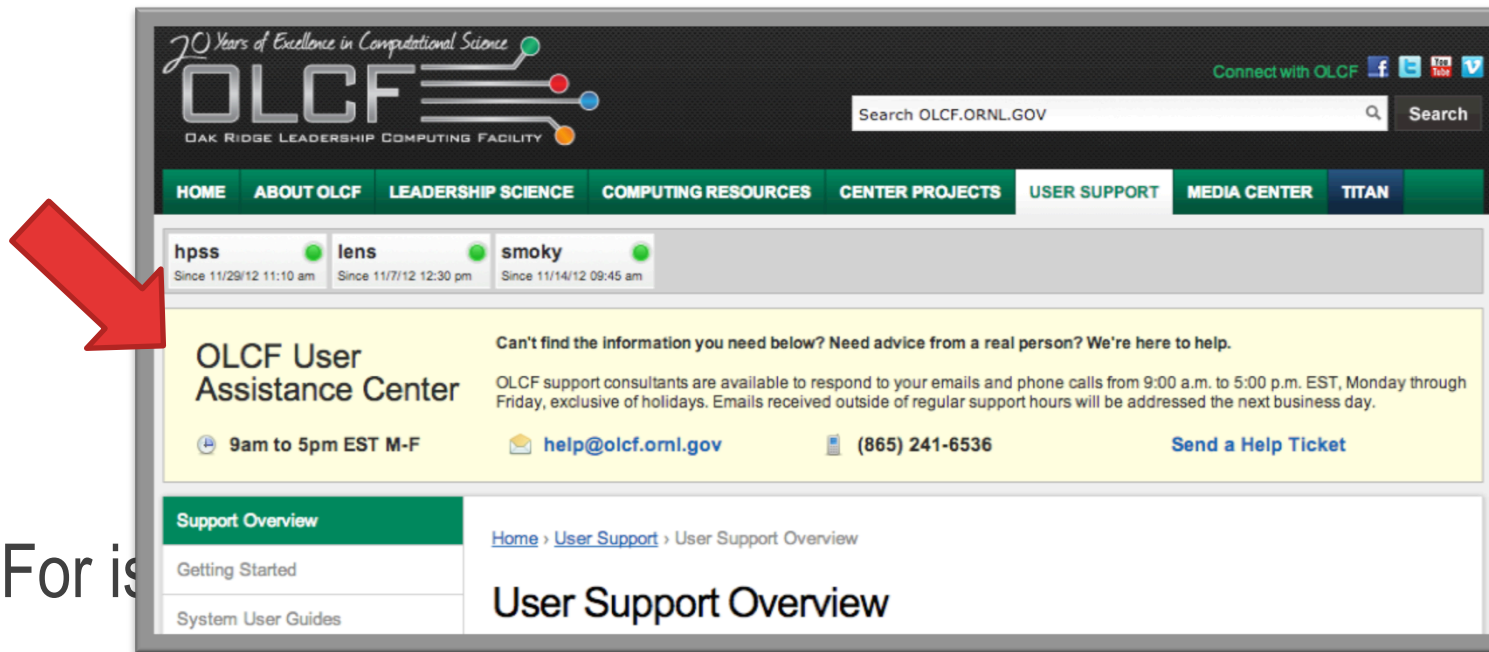
www.olcf.ornl.gov/support/

- Titan user guide
- GPU programming tutorials
- Software inventory
- Knowledge base
- Known issues
- Official policies



Support Channels

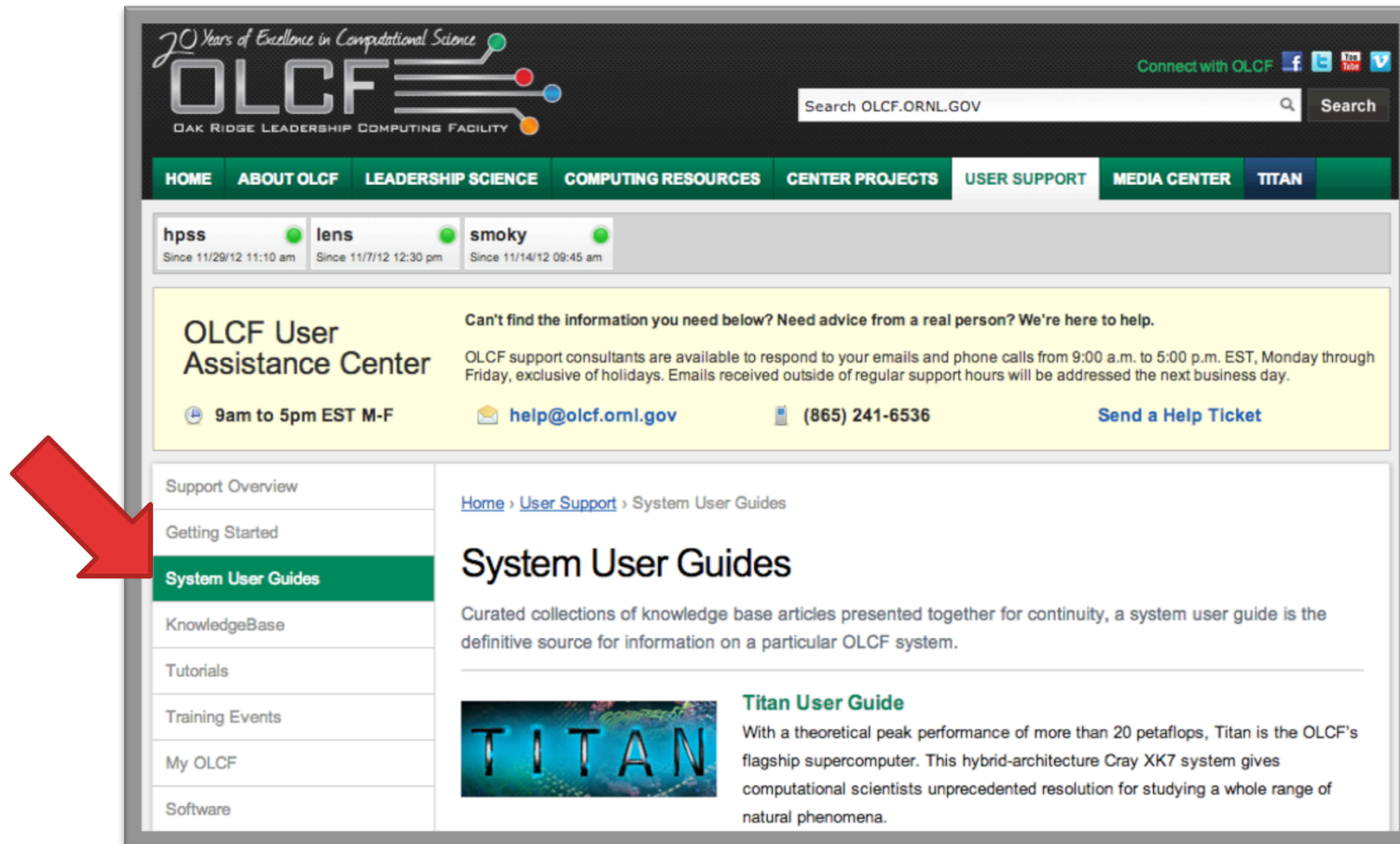
- For issues on Titan, contact OLCF support.



- For is

Titan User Guide

- Definitive source for support information on Titan



The screenshot shows the OLCF (Oak Ridge Leadership Computing Facility) User Assistance Center website. The header includes the OLCF logo, a search bar, and navigation links. The main content area features a sidebar on the left with a red arrow pointing to the "System User Guides" link. The main content area displays the "System User Guides" page, which includes a description of the guides and a section for the "Titan User Guide".

OLCF User Assistance Center

Can't find the information you need below? Need advice from a real person? We're here to help.

OLCF support consultants are available to respond to your emails and phone calls from 9:00 a.m. to 5:00 p.m. EST, Monday through Friday, exclusive of holidays. Emails received outside of regular support hours will be addressed the next business day.

9am to 5pm EST M-F | help@olcf.ornl.gov | (865) 241-6536 | [Send a Help Ticket](#)

System User Guides

Curated collections of knowledge base articles presented together for continuity, a system user guide is the definitive source for information on a particular OLCF system.

Titan User Guide

With a theoretical peak performance of more than 20 petaflops, Titan is the OLCF's flagship supercomputer. This hybrid-architecture Cray XK7 system gives computational scientists unprecedented resolution for studying a whole range of natural phenomena.

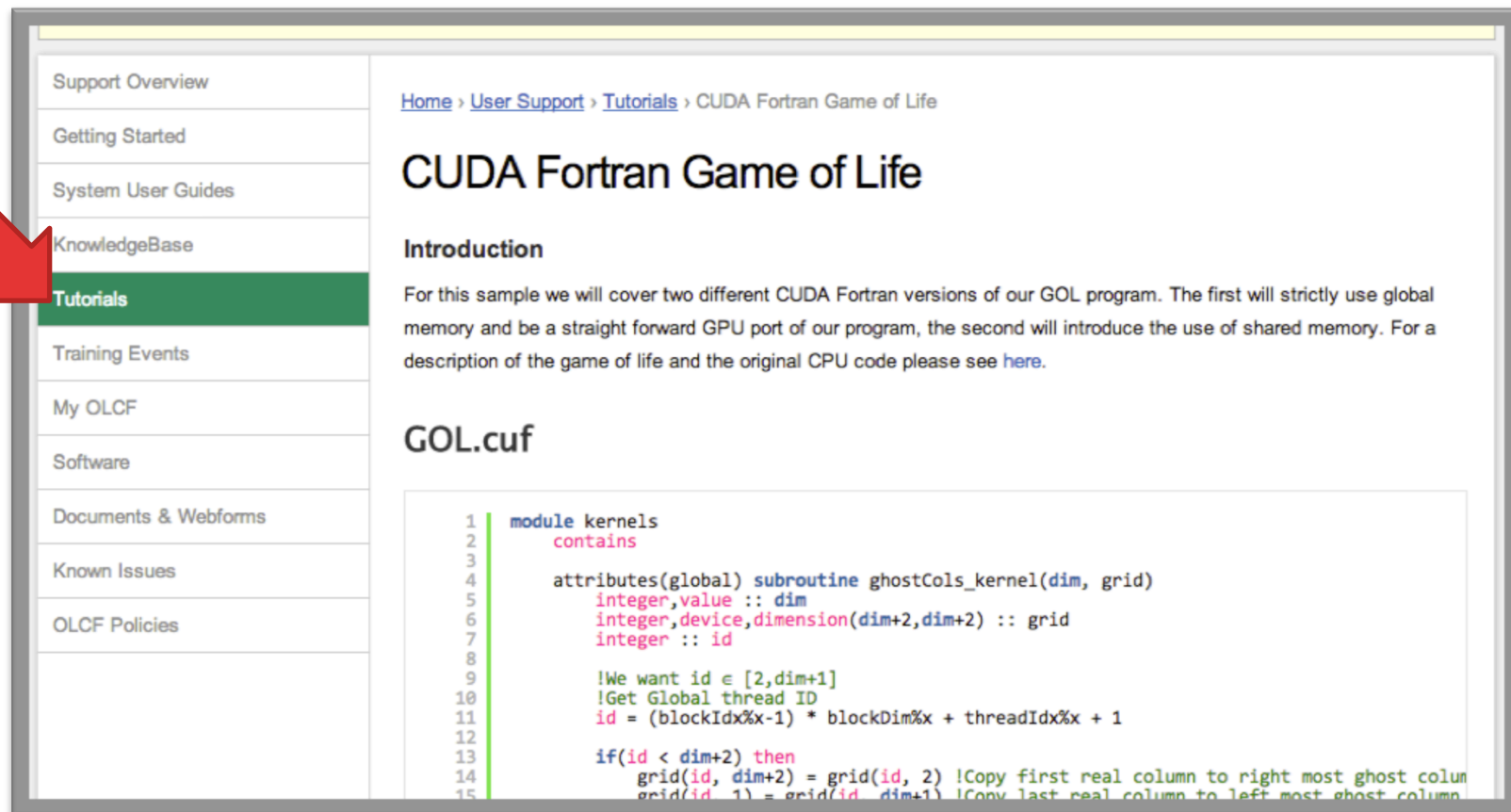
Titan User Guide

- User guide content is aggregated from searchable OLCF knowledge base.

The screenshot displays the OLCF KnowledgeBase interface. On the left is a navigation sidebar with links: Support Overview, Getting Started, System User Guides, KnowledgeBase (highlighted), Tutorials, and Titan User Guide. The main content area shows a breadcrumb trail: Home > User Support > KnowledgeBase > Requesting Access to OLCF Resources. Below this is a yellow header for 'Requesting Access to OLCF Resources'. A sub-header indicates 'Systems: DTN, HPSS, Lens, Sith, Smoky, Titan' and shows a 'Last Update: 12/6/12' with a 'Print this article' link. An inset window titled 'Titan User Guide' shows a 'Contents' list: 1. Jaguar to Titan Transition, 2. Titan System Overview, 3. Requesting Access to OLCF Resources (highlighted), 3.1. Project Allocation Requests, 3.2. User Account Requests, 4. OLCF Help and Policies, 4.1. User Assistance Center, 4.2. Communications to Users, 4.3. My OLCF Site, 4.4. Special Requests and Policy Exemptions, and 4.5. OLCF Acknowledgement. A red box labeled 'Custom Code' has two red arrows pointing to the 'Requesting Access to OLCF Resources' page and the 'Titan User Guide' inset.

Tutorials

Task-oriented technical demonstrations that offer more detail than can be presented in knowledge base articles.



The screenshot shows a web interface for OLCF User Support. On the left is a navigation menu with the following items: Support Overview, Getting Started, System User Guides, KnowledgeBase, **Tutorials** (highlighted in green with a red arrow pointing to it), Training Events, My OLCF, Software, Documents & Webforms, Known Issues, and OLCF Policies. The main content area displays the breadcrumb path: Home > User Support > Tutorials > CUDA Fortran Game of Life. Below this is the title 'CUDA Fortran Game of Life' and an 'Introduction' section. The introduction text states: 'For this sample we will cover two different CUDA Fortran versions of our GOL program. The first will strictly use global memory and be a straight forward GPU port of our program, the second will introduce the use of shared memory. For a description of the game of life and the original CPU code please see [here](#).' Below the introduction is the title 'GOL.cuf' and a code block containing Fortran code for a CUDA kernel.

```
1  module kernels
2      contains
3
4      attributes(global) subroutine ghostCols_kernel(dim, grid)
5          integer, value :: dim
6          integer, device, dimension(dim+2,dim+2) :: grid
7          integer :: id
8
9          !We want id ∈ [2,dim+1]
10         !Get Global thread ID
11         id = (blockIdx%x-1) * blockDim%x + threadIdx%x + 1
12
13         if(id < dim+2) then
14             grid(id, dim+2) = grid(id, 2) !Copy first real column to right most ghost column
15             grid(id, 1) = grid(id, dim+1) !Copy last real column to left most ghost column
```

Allocation and Usage Information



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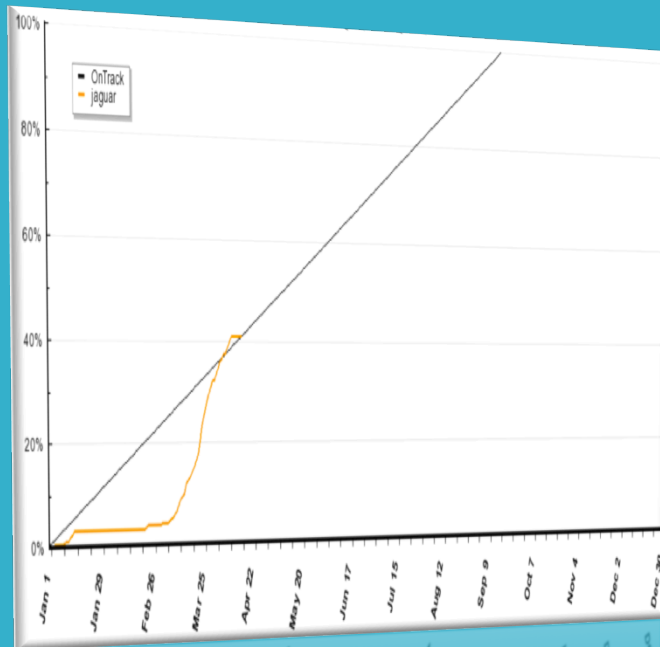
Job Resource Accounting on Titan

- Each Titan XK7 node will be *defined* as possessing 30 “Titan core-hours” - 16 CPU cores + 14 GPU core equivalents.
- Titan will be scheduled in full node increments; a node’s cores cannot be allocated to multiple jobs.
- Notably, codes that do not take advantage of GPUs will have only (16) CPU cores available per node; however, allocation requests—and units charged—will be based on (30) cores per node.
- For more information, visit http://www.olcf.ornl.gov/kb_articles/job-resource-accounting/.

Two Ways to Check Utilization

Graphical

<https://users.nccs.gov>



Command Line

> showusage

Can be executed from any OLCF system:

- | | |
|----------|---------|
| • jaguar | • dtn01 |
| • home | • dtn02 |
| • lens | • frost |

showusage

Without arguments the utility returns usage for each project and subproject on which the user has an account.

```
> showusage
```

```
jaguar usage in CPU hours:
```

		Project Totals		userid
Project	Allocation	Usage	Remaining	Usage
PRJ001	600001	26255.27	573745.73	155.96
PRJ001sub	500000	0.00	500000.00	0.00

```
>
```

showusage

Usage:

showusage [-h] [-help]

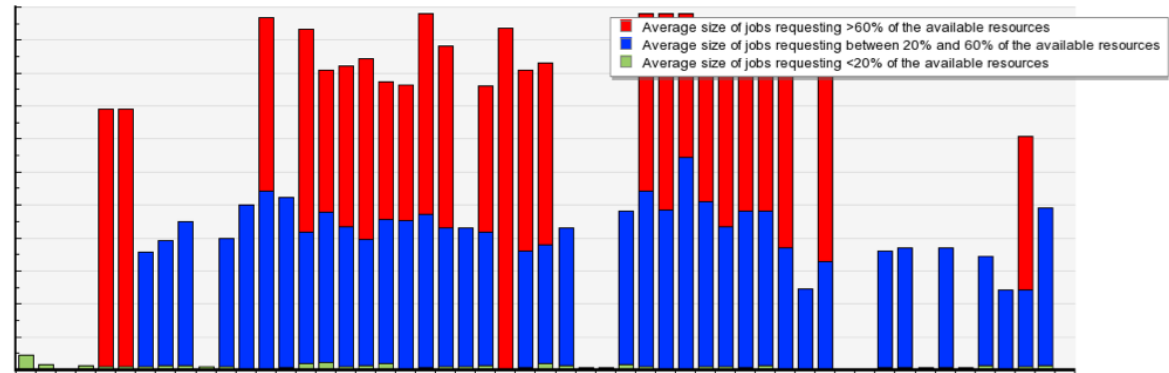
showusage [-s <system>] [-p <projectid>] [-f]

Options:

- | | |
|----------------|-------------------------------------|
| -h, -help | showusage options |
| -s <system> | display usage for specified system |
| -p <projectid> | display usage for specified project |
| -f | list usage for all project members |

Users Web Site

- users.nccs.gov
- Updated daily
- Access to the site is limited to current OLCF users with a valid SecurID fob
- Provides the following information by Project, Subproject, and System:



	Alloc Usage	Remaining Allocation	Usage by User	Usage by Job Size	User Usage by Job Size	Batch Priority	Enabled Users
Monthly	✓	✓	✓	✓	✓		
YTD	✓	✓	✓	✓	✓	✓	✓

OLCF Communications



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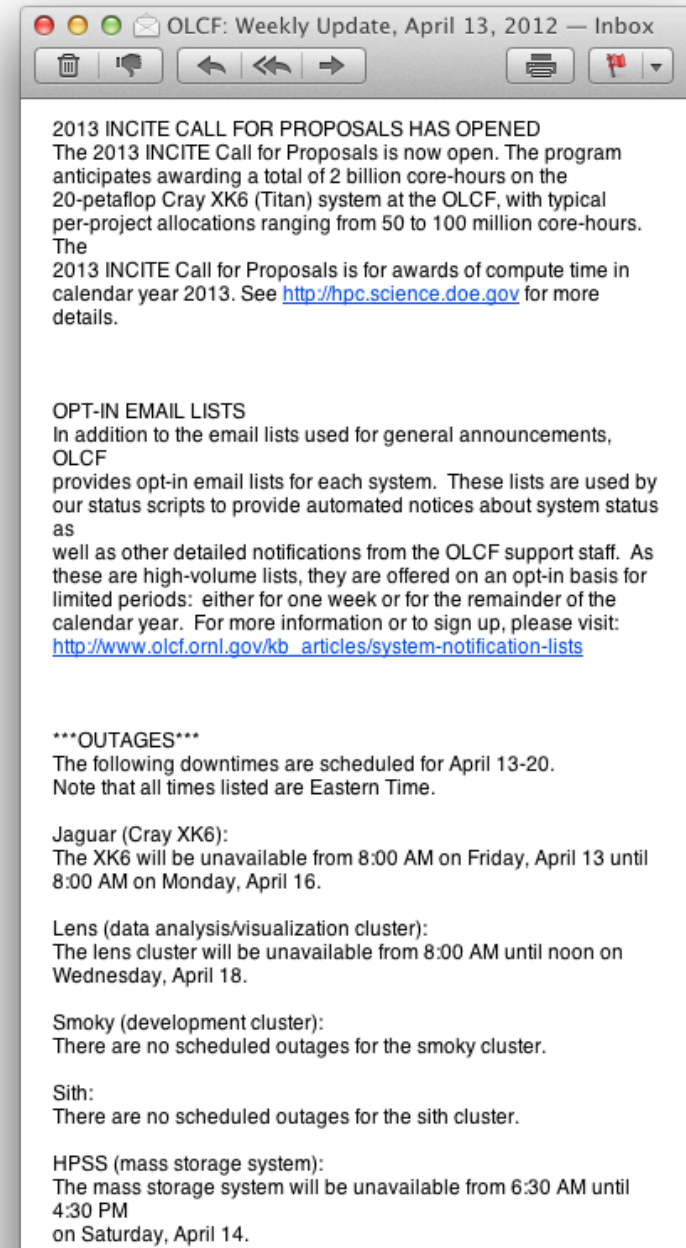


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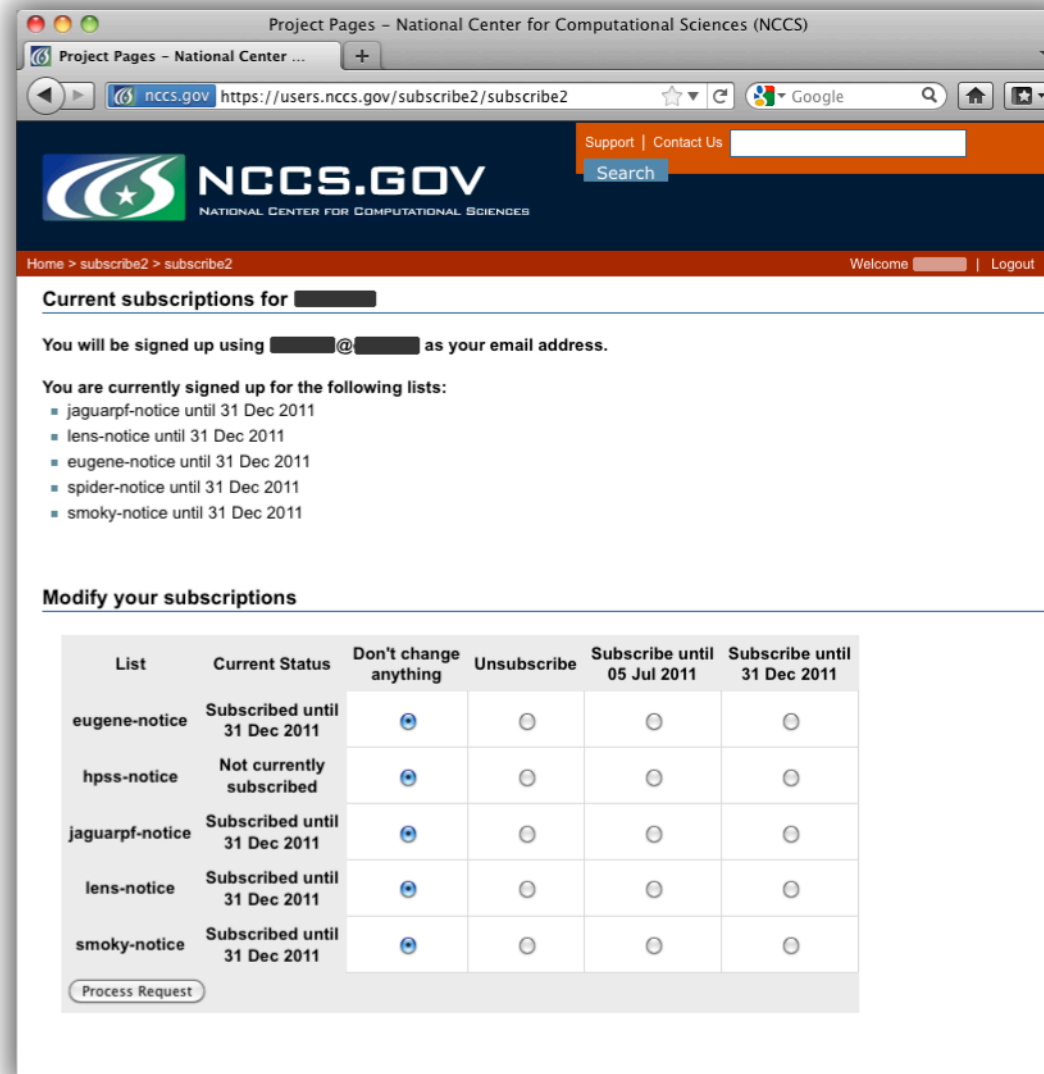
OLCF Weekly Updates

- Email Announcement every Friday
- List of scheduled system outages
- Important user information



Email Lists

<http://users.nccs.gov/subscribe>



Project Pages – National Center for Computational Sciences (NCCS)

Project Pages – National Center ...

nccs.gov https://users.nccs.gov/subscribe2/subscribe2

Support | Contact Us

Search

NCCS.GOV
NATIONAL CENTER FOR COMPUTATIONAL SCIENCES

Home > subscribe2 > subscribe2

Welcome | Logout

Current subscriptions for [redacted]

You will be signed up using [redacted]@[redacted] as your email address.

You are currently signed up for the following lists:

- jaguarpf-notice until 31 Dec 2011
- lens-notice until 31 Dec 2011
- eugene-notice until 31 Dec 2011
- spider-notice until 31 Dec 2011
- smoky-notice until 31 Dec 2011

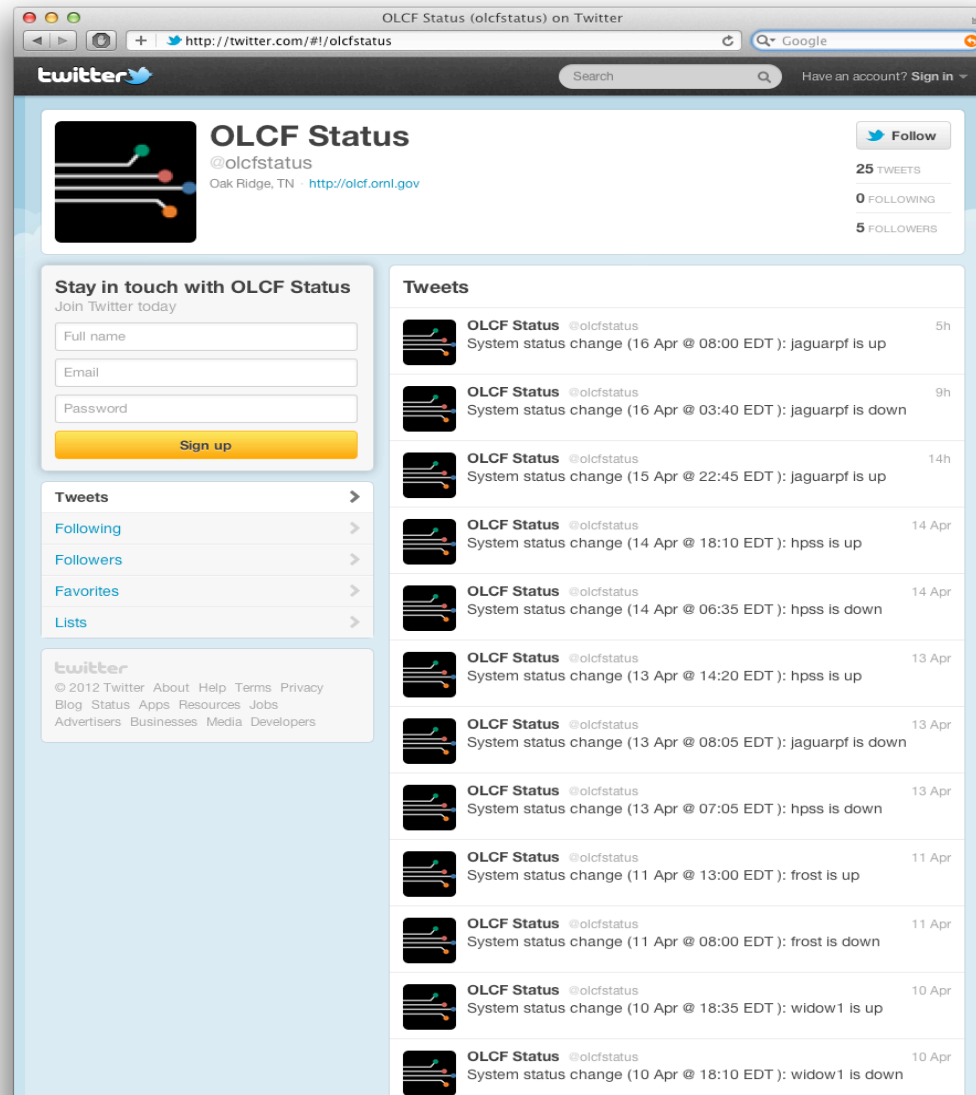
Modify your subscriptions

List	Current Status	Don't change anything	Unsubscribe	Subscribe until 05 Jul 2011	Subscribe until 31 Dec 2011
eugene-notice	Subscribed until 31 Dec 2011	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
hpss-notice	Not currently subscribed	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
jaguarpf-notice	Subscribed until 31 Dec 2011	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
lens-notice	Subscribed until 31 Dec 2011	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
smoky-notice	Subscribed until 31 Dec 2011	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Process Request

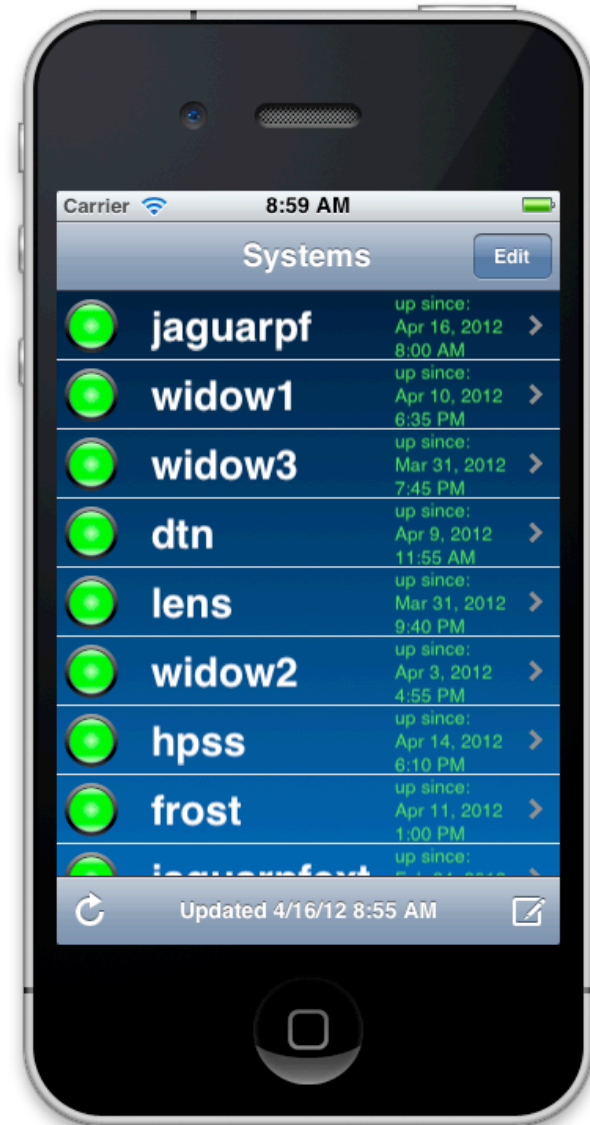
Twitter

@OLCFstatus



Smart Phone Apps

- Apple iOS and Google Android
- Customizable interface
- Push notifications
- Available in Apple app store and soon Google Play Store.



Questions & Discussion

